IN THE CLAIMS

Please amend claims 16, 18, 19, 20 and add new claim 32 as follows.

16. (Amended) A process for production of an artificial tooth substitute to be fitted on a prepared dental stump comprising the steps of:

scanning and digitizing a three-dimensional outer and inner surface of a positive model of a skeletal structure for the artificial tooth substitute to obtain data;

determining an enlargement factor (f) for the obtained data in accordance with the following

$$f = \sqrt[3]{\frac{\rho_S}{\rho_R}}$$

where ρ_R is the relative density of a preprepared blank and ρ_S is the achievable relative density after sintering;

enlarging the obtained data linearly in all direction by the enlargement factor (f) thereby compensating precisely for sinter shrinkage to obtain modified data for an enlarged model;

transferring the modified data to a control unit of a processing machine;

processing a blank of porous ceramic material in the processing machine and removing material therefrom to

produce a design form of the enlarged model;

dense-sintering the design form of porous ceramic material to obtain a skeletal structure having precise end dimensions; and

facing the skeletal structure as desired to form the artificial tooth substitute.

18. (Amended) A process according to claim 16, wherein the machined enlarged model is sintered to a density ρ_S of 90 to 100% of the theoretically possible density.

19. (Amended) A process according to claim 16, wherein the machined enlarged model is sintered to a density ρ_S of 96 to 100% of the theoretically possible density.

20. (Amended) A process according to claim 16, wherein the machined enlarged model is sintered to a density ρ_S of greater than 99% of the theoretically possible density.

32. (New) A process for production of an artificial tooth substitute to be fitted on a prepared dental stump comprising the steps of:

scanning and digitizing a three-dimensional outer and inner surface of a positive model of a skeletal structure

for the artificial tooth substitute to obtain data;

determining an enlargement factor (f) for the obtained data in accordance with the following

$$f = \sqrt[3]{\frac{\rho_S}{\rho_R}}$$

where ρ_R is the relative density of a preprepared blank and ρ_S is the achievable relative density after sintering;

enlarging the obtained data linearly in all direction by the enlargement factor (f) thereby compensating precisely for sinter shrinkage to obtain modified data for an enlarged model;

transferring the modified data to a control unit of a processing machine for generating a desired path of a tool;

cease scanning and digitizing;

processing a blank of porous ceramic material in the processing machine wherein material is removed by the tool moving along the devised path to produce a design form of the enlarged model;

dense-sintering the design form of porous ceramic material to obtain a skeletal structure having precise end dimensions; and

facing the skeletal structure as desired to form the artificial tooth substitute.